



## APPENDIX G

# Glossary of Terms

**Addition** - An addition is an expansion or extension to an existing fixed asset. An example of an addition would be the construction of a new wing for a correctional institution. Generally, additions involve alterations within existing buildings to make connections.

**Acquisition** - This type of project includes the acquisition of land, structures, and buildings. These are fixed assets that have no relationship to the addition or improvement to, or the repair or replacement of, existing fixed assets. An example of an acquisition would be purchase of a tract of land or purchase of a building.

**Addendum** - A written or graphic instrument issued by the architect before execution of the construction contract that modifies or interprets the bidding documents by additions, deletions, clarifications, or corrections.

**Additional Services** - Professional services that may, if authorized or confirmed in writing by the agency or institution, be rendered by the architect or other consultants in addition to the basic services identified in the owner-architect agreement. See Form C-100 Sections B3 and B4.

**Alternative Analysis** - Involves identifying different ways of meeting the functional requirements of the program, including various construction solutions to a problem and whether to lease, buy, build, or use some other financing technique such as lease-development to meet requirements. This requires using approaches such as cost benefit or life-cycle costing analysis to determine comparable costs of alternatives.

**Additive Alternate Bid** - An amount stated in the bid to be added to the amount of the base bid if the corresponding change in work, as described in the bidding documents, is accepted.

**Architect/Engineer (A/E)** - A party to a contract to provide professional architectural or engineering design services to an agency or institution.

**Artwork Allowance** - The cost of artwork for original construction of any building excluding storage sheds, warehouses, or buildings of a temporary nature, as provided in RCW 43.17.200. All universities and colleges shall compute artwork allowances on the cost of original construction, and on the cost of major renovation or remodeling work exceeding \$200,000, as provided in RCW 28B.10.027. Agencies should compute artwork allowances on the basis of one-half of 1 percent of the sum of consultant services, maximum allowable construction cost, and equipment costs on Form C-100 Section E.

**Associated (Annual) Cost** - These costs should include any ongoing expenses not included in Maintenance and Operations. These expenses should include all new program and staff costs reasonably assigned to the program housed in the facility. The method of calculation using escalation and discount rates is the same as Maintenance and Operations. Agencies should indicate the base annual associated costs.

**Base Bid** - An offer to do construction work for payment, the acceptance of which constitutes a contract between the contractor who made the bid (the bidder) and the agency or institution who accepted it exclusive of adjustments for additive alternates. Also known as a proposal or a tender; often called a prime bid when made by a construction company that hopes to become the prime contractor, or a sub-bid when made by a company that hopes to become a subcontractor.

**Basic Design Services** - Architectural/Engineering (A/E) Basic Design Services consist of those services described in the Guidelines for Determining Architect/Engineer Fees for Public Works Building Projects in Washington State. These design services include normal architectural, structural, mechanical, electrical, and civil engineering services for the project. See Form C-100 Section B2.

## OFFICE OF FINANCIAL MANAGEMENT

**Bond** - An obligation by which one party (surety) agrees to guarantee performance by another of a specified obligation for the benefit of a third person or entity (obligee). Examples include bid bond, performance & payment bond. See Form C-100 Section F.

**Change Order** - A written authorization provided to a contractor approving a change from the original plans, specifications, or other contract documents, as well as a change in the cost. With the proper signatures, a change order is considered a legal document.

**Claims Review Board** - A method of resolving disputes by other than arbitration or litigation.

**Clerk of the Works** - An outdated term for a representative of the architect or owner who oversees construction, handles administrative matters, and ensures that construction is in accordance with the contract documents. Currently referred to as an owners on site representative.

**Commencement Date of Construction** – The start of the construction period which is generally characterized by the mobilization of construction forces on the project site.

**Commissioning and Training** - The process for achieving, verifying, and documenting that the performance of a building and its various systems meet design intent together with the owner and occupant operational needs. The process extends through all phases of a project, from initial concept to occupancy and operation and includes the training of maintenance personnel.

**Construction Document Phase** - The phase of A/E services in which the architect prepares the construction documents from the approved design development documents and assists the agency or institution in preparation of the bidding documents.

**Construction Management (CM)** - A contractual arrangement in which an agency or institution employs an agent-consultant called a Construction Manager to coordinate and manage all of the construction trades. The additional management expertise is usually used on larger, more complex construction projects. However, an agency or institution on a smaller project may acquire a construction manager for their construction expertise to act as the “eyes and ears” for the agency on the project.

**Constructability Review** - The cost for an independent consultant or contractor to determine if a unique or unusual project can physically be built as designed. This is undertaken to reduced construction change orders and claims. This review should be conducted at 75 percent completion of the construction documents.

**Consultant** - A person or entity who provides advice or services to an agency or institution.

**Consultant Selection Cost** - The cost of advertising and travel for private sector members of a selection board, if required by RCW 39.80.

**Contingency** - The need for cost contingency is generated by a lack of information, at a particular point in time, for the task being estimated. Appropriate contingency amounts are dependent on the degree of risk present and the extent of the technical challenge surrounding the task. The design contingency legitimately covers uncertainties in a project and should be reduced through each phase of the design. Construction contingencies should be limited to 5 percent on new construction and 10 percent on remodeling work. Contingencies should not be considered as opportunities for extra work or to change original budget decisions.

**Contract Documents** - The drawings, specifications, conditions, agreement, and other documents prepared by the designer that illustrate and describe the work of the construction contract and the terms and conditions under which it shall be done and paid.

**Contractor** - A person, firm or corporation who or which, in the pursuit of an independent business undertakes, or offers to undertake, or submits a bid to construct, alter, repair, add to, subtract from, improve, move, or demolish any building, excavation or other structure, project, development, or improvement attached to real estate.

**Cost/Benefit Analysis** - An analysis in which consequences of the investment are measured in or converted to economic terms.

**Cost Estimating** - Basic services includes the development of a probable construction cost from quantity surveys and unit costs of building elements for the project. Costs shall reflect the level of design elements presented in the design documents plus appropriate design contingencies to encompass unidentified scope ultimately included in the program. Interactive Cost Estimating is additional costing services beyond Basic Services in which additional design alternatives are estimated. Independent Cost Estimating, if needed, covers cost by an independent third party contracted to the owner and used to validate cost estimates prepared by the A/E.

**Design/Code Plan Check (ICBO)** - The cost for design document plan check that is performed by the International Conference of Building Officials (ICBO) only when required by local code officials. This requirement should be identified in the permit review process (ref. IV C.2.e. Regulatory Issues: Permits).

**Discount Rate** - The discount rate reflects the time value of money. This should be approximate cost to the state for long-term debt (bonds).

**Design Build** - A method of project delivery in which the agency or institution contracts directly with a single entity that is responsible for both design and construction services for a construction project.

**Design Development Phase** - The phase of the A/E's services in which the consultant prepares the design development documents from the approved schematic design studies for submission to the agency or institution for approval.

**Design Service Contingency** - Includes an allowance for uncertainty in scoping and pricing additional services, covers variability in estimating reimbursables, includes design fees for owner directed changes, and includes design fees for changes during construction that are beyond the scope of basic services and are not a result of errors or omissions by the A/E. The total amount for design services contingency ranges from 5 to 10 percent of total consultant services cost depending on the complexity of the project.

**Energy Management System** - A program, energy efficiency equipment, technology, device, or other measure including, but not limited to, a management, education, or promotional program, smart appliance, meter reading system that provides energy information capability, computer software or hardware, communications equipment or hardware, thermostat or other control equipment, together with related administrative or operational programs, that allow identification and management of opportunities for improvement in the efficiency of energy use, including but not limited to a measure that allows: (a) energy consumers to obtain information about their energy usage and the cost of energy in connection with their usage; (b) interactive communication between energy consumers and their energy suppliers; (c) energy consumers to respond to energy price signals and to manage their purchase and use of energy; or (d) for other kinds of dynamic, demand side energy management.

**Economic Life** - Economic life, in the context of cost/benefit analysis, refers to the span of years necessary to compare similar costs of operating and maintaining alternative solutions. It may not equate to the time required to fully depreciate the structure. The economic life span should be the same for each alternative for a project. The period of time, extending from the date of installation to the date of retirement from the intended service, over which a prudent owner expects to retain the property in order to obtain a minimum cost.

**Energy Consumption Analysis** - Required for major facilities, energy consumption analysis is the evaluation of all energy systems and components by demand and type of energy including the internal energy load imposed on a major facility by its occupants, equipment, and components and the external energy load

imposed on a major facility by the climatic conditions of its location. An energy-consumption analysis of the operation of energy systems of a major facility shall include (a) the comparison of three or more system alternatives, at least one of which shall include renewable energy systems, and one of which shall comply at a minimum with the sustainable design guidelines of the United States green building council leadership in energy and environmental design silver standard or similar design standard as may be adopted by rule by the department; (b) the simulation of each system over the entire range of operation of such facility for a year's operating period; and (c) The evaluation of the energy consumption of component equipment in each system considering the operation of such components at other than full or rated outputs. The energy consumption analysis is prepared by a professional engineer or licensed architect who may use computers or such other methods as are capable of producing predictable results.

**Energy LCCA Review** - As required by RCW 39.35, the Department of General Administration will review the Energy Conservation Report for a project. Fee for this review shall not exceed \$2,000. A life cycle cost analysis includes, but is not limited to: (a) the coordination and positioning of a major facility on its physical site; (b) the coordination and positioning of a major facility on its physical site; (b) the amount and type of fenestration employed in a major facility; (c) the amount of insulation incorporated into the design of a major facility; (d) the variable occupancy and operating conditions of a major facility; and (e) an energy-consumption analysis of a major facility. (Definition expanded by EHB 2247).

**Fast Track** - A process in which certain portions of the A/E design services overlap with construction activities in order to expedite the owner's early occupancy of all or a portion of the project.

**Fixed Equipment** - The cost of objects not considered consumables (i.e., carpets, blinds, drapes, shop equipment, voice and data communications systems, chemical equipment, etc.) to be obtained through State Purchasing.

**Furniture, Fixture and Equipment (FF&E)** – The moveable furniture, fixtures, or equipment that require no permanent connection to utilities or to the structure.

**General Contractor** - The general contractor is a contractor whose business operations require the use of more than two unrelated building trades or crafts whose work the contractor shall superintend or do in whole or in part. A general contractor does not include an individual who does all work personally without employees or other specialty contractors as defined in this glossary. The terms general contractor and builder are synonymous.

**General Contractor/Construction Manager (GC/CM)** - A GC/CM is a firm with which an agency or institution has selected and negotiated a guaranteed maximum allowable construction cost for a project. A competitive selection process is used through a formal advertisement and competitive bids to provide services during the design phase that may include life-cycle cost design considerations, value engineering, scheduling, cost estimating, constructability review, alternative construction options for cost savings, and sequencing of work. The GC/CM acts as the construction manager and general contractor during the construction phase.

**Geotechnical Investigation** - The cost to do soils boring, sampling, testing, and prepare recommendations. The soil boring and sampling process, together with associated laboratory tests, are necessary to establish subsurface profiles and the relative strengths, compressibility and other characteristics of the various strata encountered within depths likely to have an influence on the design of the project.

**HVAC Balancing** - The cost to test and balance designed heating, ventilation, and air conditioning systems, including water flows, at the completion of construction.

**Initial Costs** - The same as "first cost" or the cost to provide the service or product in today's dollars for a project. Different from life cycle costs, or future costs.

**Inspection (On Site)** - The examination of work completed or in progress to determine its conformance with the requirements of the contract documents.

**Intangible Benefits** - Benefits that cannot be easily measured and are generally subjective. Intangible benefits often represent the value of the service the agency provides to the public by either providing new services or improving existing services. See Tangible Benefits.

**Lease Development** - A lease development project is defined as an acquisition of space in an existing privately-owned building through a lease that provides for a period of occupancy greater than 5 years, with an option to purchase, or construction of a privately financed building for purposes of state occupancy. Lease-development projects represent long-term occupancy proposals, but are to be funded from operating funds only. Any funds required to pay the cost of lease-development proposals should be requested through the operating budget.

**Lease/Purchase Obligations (Real Estate)** - Lease/purchase obligations are contracts entered into by the state which provide for the use **and** purchase of real or personal property, and provide for payment by the state over a term of more than one year. For reference, see RCW chapter 39.94 "Financing Contracts." Lease/purchase obligations are one type of lease-development alternative.

**Life Cycle Cost (LCC)** – The initial cost and cost of operation of a major facility over its economic life. This shall be calculated as the initial cost plus the operation, maintenance and energy costs over its economic life, reflecting anticipated increases in these costs discounted to present value at the current rate for borrowing public funds, as determined by the Office of Financial Management. The energy cost projections used shall be those provided by the Department of General Administration. The Department of General Administration shall update those projections at least every two years. (Definition expanded by EHB2247.)

**Life-Cycle Cost Analysis (LCCA)** - The identification of a total life-cycle cost of a capital project. Life-cycle cost analysis is defined as the programmatic and technical consideration of all cost elements associated with capital facility alternatives under consideration. These cost elements may include any or all of the following: Capital Investment Costs, Financing Costs, Operations Costs, Maintenance Costs, Alterations Costs, Replacement Costs, Denial of Use Costs, Lost Revenue, and Associated Costs. Life-cycle costing is expected to reduce the total cost by selecting the correct designs and components to minimize the total cost of service, not only the first cost. For instance, changes to the preliminary design might increase initial cost but lower operating costs and thereby reduce total costs.

**Maintenance and Operations (M&O) Costs** - The costs of the regular custodial care and repair, annual maintenance contracts, utilities, maintenance contracts, and salaries of facility staff performing M&O tasks. The ordinary costs required for the upkeep of property and the restoration required when assets are repaired but not replaced. Items under M&O include the costs of inspecting and locating trouble areas, cleaning and preventive work, replacement of minor parts, power, labor, materials, and minor changes in or rearrangements of existing facilities. Work required to preserve or restore buildings, grounds, utilities, and equipment to original conditions or such condition that it can be effectively used for its intended purpose.

**Maintenance and Operations Manuals** - The assembly, tabulation, and indexing of all shop drawings and submittals on all equipment, controls, and systems so that required maintenance and troubleshooting can easily be shown and understood. This is included in A/E Basic Services.

**Management Reserve** - Management reserve is an allowance for changes beyond control of the owner and recognizes the potential for variances in key assumptions in building efficiency, escalation, sales tax, permit requirements/delays, and off-site development. The amount is a function of risk and uncertainty and may be non-existent for many projects, or range from 2 to 10 percent for others.

**Major Facility** – Any publicly owned or leased building having 25,000 square feet or more of usable floor space. Major facilities are required to conduct an energy consumption analysis of the operation of its energy systems.

**Major Projects** - Those projects that cost \$5 million or more or projects that meet the following criteria: have particularly costly elements, are undertaken on a tight design budget or short design schedule, have significant policy implications to a program, or involve state of the art technology.

**Master Plan** – A document setting forth the concepts and guiding principles for future development of a campus facilities, landscaping and infrastructure.

**Maximum Allowable Construction Cost (MACC)** - The cost for construction that the agency or institution stipulates to the design consultant before design begins. The cost is the agency or institution budget for the construction cost of the project and serves as the parameter in which the design consultant agrees that the construction cost of the design will not exceed.

**Midpoint of Construction** – The date midway between the commencement date and the date of substantial completion.

**On-Site Representative** - This is a full- or part-time employee who represents the owner during construction and serves as a liaison between the architect and contractor on major projects.

**Outline Specifications** - An abbreviated set of specification requirements normally included early in the design process.

**Performance Bond** - A bond issued by a surety company on behalf of a contractor to guarantee an owner proper performance of the construction contract.

**Phased Construction** - Those projects in which design and production overlap, thus shortening project time; usually practiced in construction management projects. See Fast Track.

**Present Worth or Present Value** - The economic procedure to account for the time-equivalent value of past, present, or future costs at the beginning of a base period.

**Programming** - The work necessary to define the scope of a project, conduct master planning for future work, or delineate the existing conditions. This work may require field measurements or building systems testing and surveys.

**Project Budget** - The sum established by the agency or institution as available for the entire project, including the construction budget, acquisition costs; costs of furniture, furnishings, and equipment, compensation for professional services and all contingencies.

**Project Delivery System** - The method of how an agency or institution plans to contract a project such as design-bid-build, design build, General Contractor/Construction Manager, etc.

**Record Drawing** - The revised drawings which truly reflect what was constructed including field verification. To be included in A/E Basic Services.

**Reimbursable Expenses** - Amounts expended for the project that, in accordance with the terms of the appropriate agreement, are to be reimbursed by the agency or institution such as telephone charges and travel expenses in accordance with state guidelines.

**Retainage** - Those portions of cash amounts due to be paid to a contractor for work completed that are held back (retained) by the agency or institution and not paid until some later date; often at substantial completion or at final completion of the work, according to the terms and conditions of the contract and any relevant legal statute; as a security for proper performance of work and fulfillment of contractor's requirements.

**Schematic Design Phase** - The phase of the A/E services in which the architect consults with the agency or institution to ascertain the requirements of the project and prepares schematic design studies consisting of drawings and other documents illustrating the scale and relationships of the project components for approval by the agency or institution. The A/E also submits a preliminary estimate of construction cost based on current area, volume, or other unit costs.

**Site Survey** - The process of mapping the boundary, topographic, or utility features of a site, measuring an existing building, or analyzing a building for use of space.

**Specifications** - The major part of a project manual, excluding the bidding documents, contract agreement, and the conditions of the contract; the written descriptions of items of work that complement the construction drawings.

**Subcontractor** - A party to a subcontract who does trade work for a general contractor.

**Substantial Completion** – The stage of a project when progress of the work is sufficiently complete so the owner can occupy or utilize the work site for its intended purpose.

**Tangible Benefits** - Benefits that can be measured in dollars.

**Testing** - This is a technician's services in acquiring and testing samples of materials used in the project as required in the State Building Code such as welds, concrete strength, or bearing capacity.

**Unifomat** - A system for classifying building products and systems by functional subsystem, e.g., substructure, superstructure, exterior closure, etc.

**Useful Life** - An estimate of the total time that an asset is usable and in service.

**Value Engineering (VE)** - VE is a systematic, orderly approach to defining a facility's required function, verifying the need for the function, and creating alternatives for providing the function at minimum life-cycle cost. Value is the lowest life-cycle cost to achieve the required function. VE is a problem-solving system that emphasizes the reduction of cost while maintaining the required quality and performance of the facility. In some cases VE suggestions may increase first cost to increase value or performance or decrease life cycle cost. It is a technique that is applied in addition to the regular design process. It is required on all major projects.

**V/E Participation and Implementation** - The extra fee to be paid to the A/E for participation in the required value engineering study and includes incremental cost to implement changes identified by the study and requested by the owner.